

Page 1 of 1

All amounts are calculated in domestic currency.

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID/Vendor Name VC-LAI001 Laird Plastics Canada Inc.											
P032372	1	P2024243	71900-90		5/17/2016	5/17/2016	6.0000	\$104.91	0.0000	0	\$629.47
CAD	No		Macrolon .177 - clear m134800		6.0000	PLOU01		\$629.47	0.0000	0	
	2	P2024243	71900-90		5/17/2016	5/17/2016	1.0000	\$47.81	0.0000	0	\$47.81
	No		freight m134800		1.0000	PLOU01		\$47.81	0.0000	0	
Total Received Quantity:											7.0000
Total Qty to Inspect (PO U/M):											0.0000
Total Reject Quantity:											0.0000
Total Receipt Value:											\$677.29
Total Balance Due Quantity:											0.0000

700 Industrial Av #6 & 7
OTTAWA ON K1G 0Y9
613-247-9518 FAX 613-247-9612

ORDER NO.: 6063315-000 SO

BRANCH/PLANT: 60

ORDER DATE: 05/16/16

Sold To: 293679

DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY ON K6A 1K7
Canada

Ship To: 293679

DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY ON K6A 1K7
Canada

5/16/16 08:32:43

Page 1 of 1
Pick List
Related P.O.
5971275

613 6323336

REQ DATE	SHIPPED VIA	FREIGHT TERMS	PAYMENT TERMS	SHIPPING INSTRUCTIONS	CUSTOMER P.O.	SALES REP
05/16/16	MEYERS TRANSPORT	Prepaid and Add	Net 30 Days	C OF C REQUIRED	32372	MICHAEL LANTHIER - Ottawa
LINE NO	QUANTITY	U/M	ITEM NUMBER	DESCRIPTION	LOCATION	LOT
1.000	Ordered 6 Shipped 6	SH	171140	PC SM .177 X 48 X 96 CLEAR ULTRA MASK FREIGHT (Taxable)		
2.000	Ordered 1 Shipped 1	EA				
<div> <div>Weight 210 LBS</div> <div>BY</div> <div>DATE</div> </div>						

All sales made by Laird are expressly subject to Laird's Standard Terms and Conditions that can be found at www.lairdplastics.com/termsandconditions which are deemed accepted by Buyer upon submission of an order. Laird specifically objects to all terms and conditions that may be contained on Buyer's order, or any other document provided to Laird by Buyer.



CERTIFICATE OF CONFORMANCE

Sold To	<u>Dart Aerospace</u>
Date	<u>5/16/2016</u>
Your Purchase Order Number	<u>32372</u>
Line Number the Item is on	<u>1</u>
Quantity	<u>6</u>
Description of Item	<u>.177" x 48" x 96" Makrolon GP SM Clear</u>
Manufactured By	<u>Covestro</u>

THIS MATERIAL WAS MANUFACTURED IN ACCORDANCE WITH:

TECH DATA SHEETS

This is to certify that the material finishes and functional requirements of the above listed parts are in accordance with the reference procurement specifications, control drawings or parts designation and latest revisions as referenced on the subject purchase order.

Authorized Representative Signature(s)

(sign)

(print) Mike Lanthier

(sign)

(print)



Makrolon® GP sheet

General purpose

Makrolon® GP sheet is a polished surface, UV stabilized, transparent polycarbonate product. It features outstanding impact strength, superior dimensional stability, high temperature resistance, and high clarity. This lightweight thermoformable sheet is also easy to fabricate and decorate. Makrolon GP sheet is offered with a five (5) year Limited Product Warranty against breakage. The terms of the warranty are available upon request.

Applications

Industrial glazing, machine guards, structural parts, thermoformed and fabricated components

Typical Properties

Property	Test Method	Units	Values
PHYSICAL			
Specific Gravity	ASTM D 792	–	1.2
Refractive Index	ASTM D 542	–	1.586
Light Transmission, Clear @ 0.118"	ASTM D 1003	%	86
Light Transmission, I30 Gray @ 0.118"	ASTM D 1003	%	50
Light Transmission, K09 Bronze @ 0.118"	ASTM D 1003	%	50
Light Transmission, I35 Dark Gray @ 0.118"	ASTM D 1003	%	18
Water Absorption, 24 hours	ASTM D 570	%	0.15
Poisson's Ratio	ASTM E 132	–	0.38
MECHANICAL			
Tensile Strength, Ultimate	ASTM D 638	psi	9,500
Tensile Strength, Yield	ASTM D 638	psi	9,000
Tensile Modulus	ASTM D 638	psi	340,000
Elongation	ASTM D 638	%	110
Flexural Strength	ASTM D 790	psi	13,500
Flexural Modulus	ASTM D 790	psi	345,000
Compressive Strength	ASTM D 695	psi	12,500
Compressive Modulus	ASTM D 695	psi	345,000
Izod Impact Strength, Notched @ 0.125"	ASTM D 256	ft-lbs/in	18
Izod Impact Strength, Unnotched @ 0.125"	ASTM D 256	ft-lbs/in	60 (no failure)
Instrumented Impact @ 0.125"	ASTM D 3763	ft-lbs	>47
Shear Strength, Ultimate	ASTM D 732	psi	10,000
Shear Strength, Yield	ASTM D 732	psi	6,000
Shear Modulus	ASTM D 732	psi	114,000
Rockwell Hardness	ASTM D 785	–	M70 / R118
THERMAL			
Coefficient of Thermal Expansion	ASTM D 696	in/in/°F	3.75 x 10 ⁻⁵
Coefficient of Thermal Conductivity	ASTM C 177	BTU-in/hr-ft ² -°F	1.35
Heat Deflection Temperature @ 264 psi	ASTM D 648	°F	270
Heat Deflection Temperature @ 66 psi	ASTM D 648	°F	280
Brittleness Temperature	ASTM D 746	°F	-200
Shading Coefficient, clear @ 0.236"	NFRC 100-2010	–	0.97
Shading Coefficient, Gray or Bronze @ 0.236"	NFRC 100-2010	–	0.77
U factor @ 0.236" (summer, winter)	NFRC 100-2010	BTU/hr-ft ² -°F	0.85, 0.92
U factor @ 0.375" (summer, winter)	NFRC 100-2010	BTU/hr-ft ² -°F	0.78, 0.85
ELECTRICAL			
Dielectric Constant @ 10 Hz	ASTM D 150	–	2.96
Dielectric Constant @ 60 Hz	ASTM D 150	–	3.17
Volume Resistivity	ASTM D 257	Ohm-cm	8.2 x 10 ¹⁶
Dissipation Factor @ 60 Hz	ASTM D 150	–	0.0009
Arc Resistance			
Stainless Steel Strip electrode	ASTM D 495	Seconds	10
Tungsten Electrodes	ASTM D 495	Seconds	120
Dielectric Strength, in air @ 0.125"	ASTM D 149	V/mil	380
FLAMMABILITY			
Horizontal Burn, AEB	ASTM D 635	in	<1
Ignition Temperature, Self	ASTM D 1929	°F	1022
Ignition Temperature, Flash	ASTM D 1929	°F	824
Flame Class @ 0.060"	UL 94	–	HB
@ 0.394"	UL 94	–	V-0

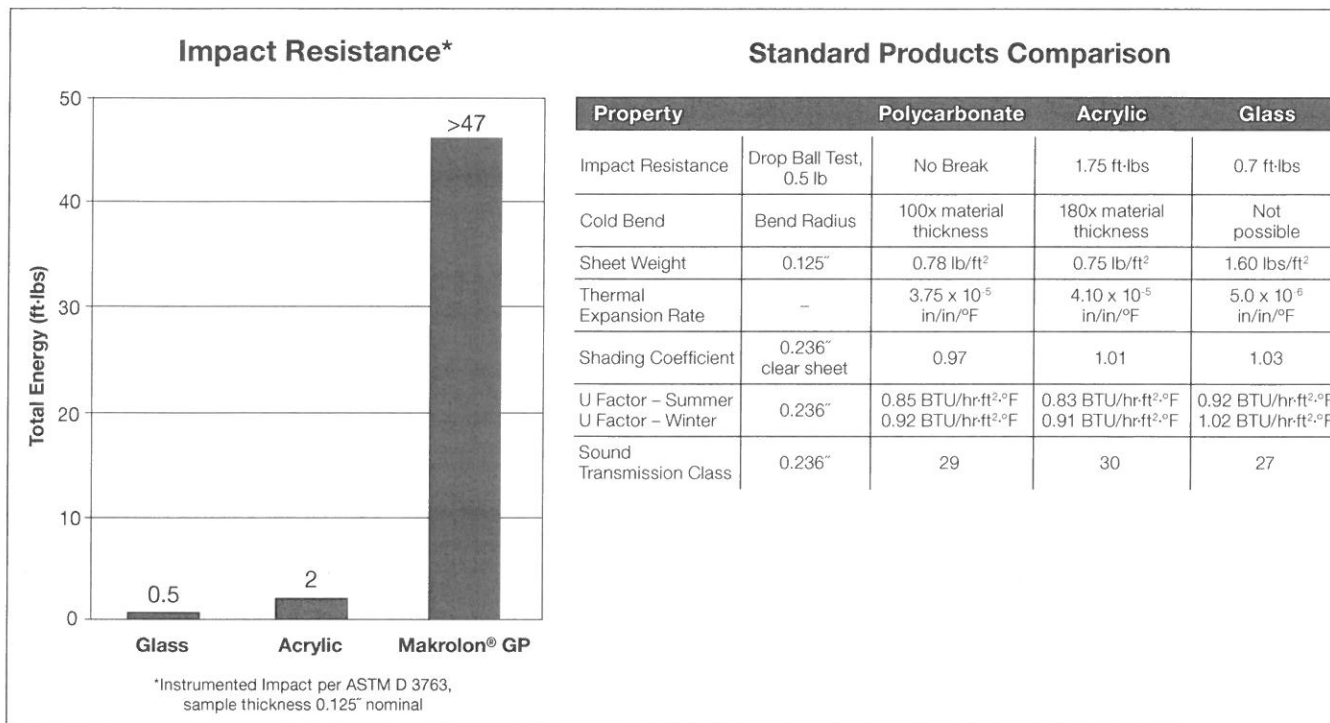
*Typical properties are not intended for specification purposes.

**Some properties characterized using non-textured sheet.



makrolon®
GP

Makrolon® GP sheet



Regulatory code compliance and certifications

ICC-ES Evaluation Report ESR-2728

Miami-Dade NOA #12-0605.05

CPSC 16 CFR 1201 Category I and Category II: Safety Standard for Architectural Glazing Materials

ANSI Z97.1-2004: American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test. Class A

UL 972: Burglary Resistant Glazing Materials, UL File #BP2126

UL 94: Flammability, UL File #E351891



Bayer MaterialScience

Bayer MaterialScience
119 Salisbury Road
Sheffield, MA 01257
Toll Free: 800.254.1707
Fax: 800.457.3553
sfdinfo@bayer.com
www.sheffieldplastics.com

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO32372**

Purchase Order Date 5/16/2016

PO Print Date 5/16/2016

Page Number 1 of 1

Order From :
LAIRD PLASTICS
C/O T08983C/U
PO BOX 8983, STN "A"
TORONTO, ON M5W 2C5
CA

VC-LAI001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name		Buyer	Linda Lacelle
Vendor Phone	613 247 9518	Customer POID	
Ship To Contact		Customer Tax #	10127-2607
Ship To Phone		Terms	Net 30
Ship Via:	VENDOR'S TRUCK	Currency	CAD
Ship Acct:		FOB	FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	71900-90	Macrolon .177 - clear	5/17/2016 No 5/17/2016		6.00	\$131.65	\$789.90
Line Total:							\$789.90
2	71900-90	freight	5/17/2016 No 5/17/2016		1.00	\$60.00	\$60.00
Line Total:							\$60.00
PO Total:							\$849.90

216-05-17

CH

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1

Change Date: 5/16/2016